Cambridge Gulf Exploration NL

Combined Mineral Exploration Report

EL8118, EL8119 and EL8166

for the period 12 May 1994 to 11 May 1995

Confidential Report Lodged under section 33(d) of the Northern Territory Mining Act

Tenements	1:250 000 Map Ref
EL8118	Auvergne (SD52-15) and Port Keats (SD52-11)
EL8119	Port Keats (SD52-11)
EL8166	Port Keats (SD52-11)

Tenement Holder

Cambridge Gulf Exploration NL
ACN 059 458 374
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Perth WA 6000

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Report Date: 7 June 1995

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1. SUMMARY

The seismic survey undertaken in 1994 was systematically processed in February 1995 using Delph 2 software. Since the processing was completed interpretation of the 1994 seismic records has been commenced with the digitisation of the seabed complete, and the full interpretation partially completed as of May 11, 1995.

From the bulk sampling surveys completed by CGE in the Joseph Bonaparte Gulf a conceptual geological model and mining scenario was developed, and from this a mining cost estimation and cut-off grade estimation was calculated. Using the cut-off grade calculations a minimum drill diameter for the determination the diamond grade was derived. Having established a minimum drill diamter of two metres for further exploration, research was undertaken in which a suitable drilling tool was identified. This was followed by negotiations with a joint venture partner.

The Combined Mineral Exploration Report for EL8118, El8119 and EL8166 for the period 12 May 1993 to 11 May 1994 provided a proposed program of work to May 11 1995 (Section 6.1.1 of the document submitted to the Department of Mines and Energy on June 7, 1994). Of the four activities listed by the Company for each of the tenements, only the final interpretation of the seismic data has not been completed. This interpretation is well underway and the details are provided in the following sections.

In addition, the actual expenditure on each of the three tenements far exceeds the required expenditure.

2. EXPENDITURE STATEMENTS

The actual expenditures incurred on E8118, E8119 and E8166 in the period 12 May 1994 to 11 May 1995 are summarised in Table 2-1 together with the expenditure commitments.

Table 2-1 Summary of the expenditure on EL8118, 8119 and 8166 to 11 May 1995

EXPENDITURE DETAIL	E8118	E8119	E8166
Consultants	$4,819	$1,127	$282
Environmental baseline research	$1,269	$1,016	$254
Equipment hire	$2,520		
Lab expenses	$149		
Legal fees	$28,847		
Rent	$462	$369	$92
Research for drill platform		$26,018	$26,018
Reproduction and maps	$81	$65	$16
Salaries technical personnel	$79,774	$63,794	$15,948
Seismic interpretation		$4,416	$3,312
Tenement administration	$1,267	$1,014	$253
Transport and freight	$2,912		
Travel and accommodation	$8,772	$2,184	$796
Wages	$704	$563	$141
Overhead (15%)	$19,736	$15,085	$7,067
TOTAL	**$151,311**	**$115,649**	**$54,179**
EXPENDITURE COMMITMENT	**$30,000**	**$40,000**	**$5,000**
RATIO ACTUAL EXPENDITURE TO EXPENDITURE COMMITMENT	**5**	**3**	**11**

From Table 2-1, it can be seen that the actual expenditures far exceed the required expenditures.

3. INTRODUCTION

The tenements EL8118, EL8119 and EL8166 cover a portion the Victoria River drainage course, including the river mouth, and extends to the three nautical mile Territorial Sea Outer Limits (Figure 3-1). The group of three tenements are referred to as the Victoria River Prospect.

In a letter dated 12 May 1994, CGE requested permission to combine mineral exploration reports for the tenements EL8118, EL8119 and EL8166 into a joint report. Approval was given by the Northern Territory Department of Mines and Energy in a letter dated 13 May, 1994.

A Northern Territory Geological Survey Geosystem Data Sheet is provided in Appendix One.

4. TENEMENT SITUATION

EL8118, 8119 and 8166 were applied for on February 1993 and granted under the following tenement holders:

Cambridge Gulf Holdings NL (ACN 009 274 122)	50%
Penale Pty Ltd (ACN 009 071 523)	50%
Total	**100%**

All three tenements were granted on 12 May 1993.

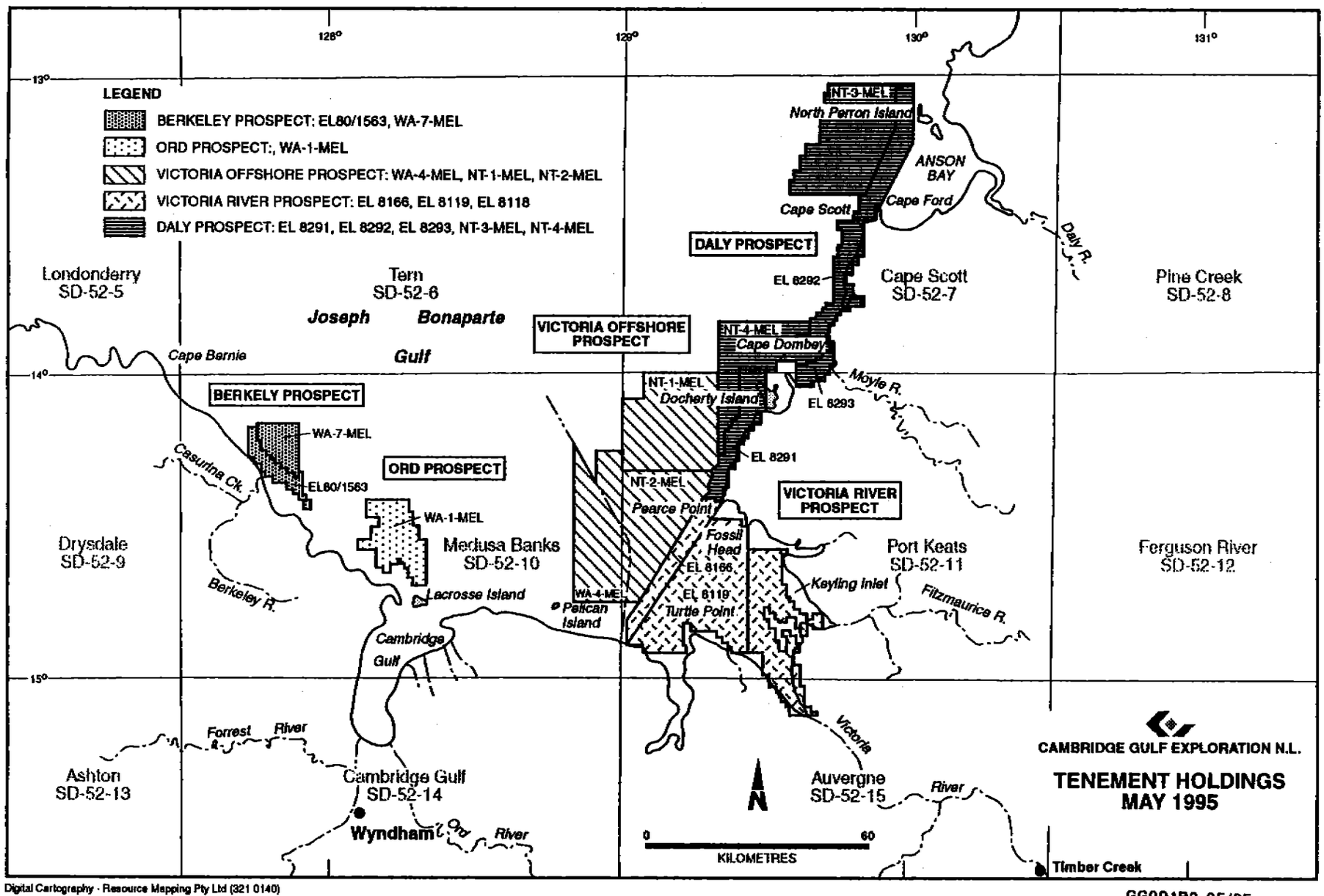
On 20 April 1994, Transfer of Exploration Licences were registered for EL8118, 81119 and 8166 transferring 100% ownership to :

Cambridge Gulf Exploration NL (ACN 059 458 374) 100%
Level 4, Southshore Piazza
81-83 The Esplanade
South Perth WA 6151

On 4 April 1995 a letter nominating the graticlar blocks surrendered on E8118 and a submission for waiver of 50% reduction under Section 28 of the Act 1980 for E8119 and E8166 was forwarded to the Department of Mines and Energy. Combined technical exploration reporting for the three tenements was granted on 13 May 1994.

EL8118 has been the subject of legal proceedings since early August 1993, initiated by the Aboriginal Areas Protection Authority with respect to an Aboriginal Sacred Site. Legal proceedings are still current on this tenement. The Sacred Site in question is included in the surrendered ground.

As part of the CGE defence case, a field survey was undertaken to locate accurately the co-ordinates (AMG 84) of the bulk sampling local grid origin, of various features in the area sampled and the claimed co-ordinates of the sacred site boundaries. The survey equipment (differential GPS) and surveyors were provided by Racal Survey Australia Ltd of Balcatta, Western Australia. The defence involved law firms in Perth, Western Australia, and Darwin, Northern Territory.



Figue 3-1 Cambridge Gulf Exploration NL - tenement holdings

5. SEISMIC SURVEY DATA PROCESSING AND INTERPRETATION

5.1 Introduction

In August 1991, a regional shallow seismic reflection traverse was surveyed across the Victoria River offshore extension (Figure 5-1). The traverse was approximately 52 kilometres long and crossed the south western part of E8166 and the north eastern part of E8119. The profile suggested the presence of two generations of palaeochannels in the Victoria and Fitzmaurice River offshore extensions.

In March 1994, 283 line kilometres of shallow seismic was surveyed on the three tenements. Spacing between traverses was 5 kilometres (Figure 5-1). The data acquisition was reported in the previous 'Combined Mineral Exploration Report' lodged in June 1994 with the Northern Territory Department of Mines and Energy.

5.2 Data Processing

The 1994 seismic data was recorded digitally using the Delph 2 software marketed by Elics of Paris, France. The digital data format is an in-house format and therefore only readable by the Delph 2 software. Susequent to the completion of the survey, numerous attempts were made to translate the data to a SEG Y format readable by a third party. Attempts were also made to get the digital data interpreted by two local Oil and Gas seismic processing contractors. Sample data from the Western Australian part of the survey were processed after great difficulties by the contractors but failed to improve the existing data. It was also found that systematic processing of all the data by these contractors would be cost prohibitive.

It took some eight months, from April to November 1994, before the Company was satisfied that the best and most cost effective processing available was using the Delph 2 software. Systematic processing was undertaken and completed in February 1995.

Initial processing was achieved by Common Depth Point ("CDP") stacking of channels 1 to 12 using the parameters of streamer geometry and of the general layout of the acquisition equipment. At a later stage 24 channels CDP files were compiled from a selected number of lines.

5.2.1 Bandpass Filters

In the processing, these filters define the cut off frequency of the high pass filter and the low-pass filter. The high-pass filter attenuates the spectral component of the signal below the cut off frequency. The high-pass filter was set at 240 to 300 HZ during processing. Similarly, the low-pass filter attenuates the spectral components of the signal above the cut off frequency and was set at 1500 to 1800 HZ.

8430000mN

8415000mN

8400000mN

8385000mN

8370000mN

128° 40' 0" E

14° 16' 0" S

14° 24' 0" S

14° 32' 0" S

14° 40' 0" S

14° 48' 0" S

465000mE

480000mE

495000mE

510000mE

525000mE

540000mE

555000mE

570000mE

1992 SEISMIC

1992 SEISMIC

EL8166

EL8118

EL8119

V80A

V80

V80B

V75

V75A

V70

V65

V65A

V60

V60A

V55

V55A

VTL3A

VTL2

VTL2A

VTL4

VTL4B

VTL3

CA95/421

Date	Revision	Chkd	By		

HORIZONTAL DATUM : AUSTRALIAN GEODETIC DATUM 1984
SPHEROID : AUSTRALIAN NATIONAL SPHEROID
PROJECTION : AUSTRALIAN MAP GRID
CENTRAL MERIDIAN : 129° EAST

REMARKS: Seismic plot postion is halfway between sound source and group 6 of the Delph 24 channel array.

FIGURE 5.1

SEISMIC TRACKPLOT CHANNEL 6
DELPH 24 CHANNEL
HYDROPHONE ARRAY
VICTORIA RIVER PROSPECT

CAMBRIDGE GULF EXPLORATION NL
QV 1 BUILDING
ST GEORGES TERRACE
PERTH W.A. 6000

Vessel	MICLYN COVE
Surveyed	PAC/TRB
Checked	

FUGRO SURVEY PTY LTD
18 Prowse Street, West Perth WA 6005, Australia
Tel: +61-9-322 4955 Fax: +61-9-322 1775

Date	MARCH 1994
Scale	1:150 000
Drawn	A.L.S.
Ref No.	HY 9599
Plan No.	VR003R1-94/06
Rev	

5.2.2 Automatic Gain Control ("AGC")

The AGC processing offers improved visualisation of seismic signals by compensating for variations in the signal envelope by different means. By experimentation on various profiles, it was found that the best results were obtained by using exponential or linear adaptations. For the 24 channels CDP stack profiles an exponential adaptation was selected with equal sensitisation (rise time) and desensitisation (fall time) between 13 and 60 milliseconds; the window width was 5 milliseconds. For the 12 channels CDP stack profiles a linear adaptation was selected with rise and fall times of 20 milliseconds and a window width of 1.3 milliseconds.

5.2.3 Swell Filter

Several attempts were made to process the data with the swell filter, but this was not successful because the bang box signal was multiple and not sharp enough.

5.2.4 Time Varying Filter (TVF)

This option allows a bandpass filter (combination of high and low-pass filters) to be applied to the signal. It is applied between the seabed and the end of recording time.

This processing was also tried on the data but found to be less effective than the bandpass filters (see 5.2.1).

5.2.5 Predictive Deconvolution

This option allows seabed multiple to be attenuated and, as it requires knowledge of the seabed position, it must be used together with the swell filter. Predictive deconvolution was attempted on both the 12 and 24 channels CDP stacks with the following parameters:

- length of signature: 0.5 millisecond
- length of processing window: 0.5 millisecond
- filter coefficient: 3
- position of multiple: variable from trace to trace

Predictive deconvolution was not successful because of the signal quality (see 5.2.3) and, generally, did not significantly attenuate the seabed multiples.

5.2.6 Horizontal Stacking

In the 24 channels CDP stack processing, a horizontal stacking of 2 channels was applied to attenuate the noise interference, particularly in the deeper part of the profile.

5.2.7 CDP Stacking

When the CDP stacked profiles were prepared, velocity and mute functions were defined using the real time single channel profiles produced during acquisition. The velocity function was generally defined at:

- 1500 metres per second at the top of recording, to
- 1600 metres per second some 40 milliseconds below seabed, to
- 1700 metres per second some 80 to 100 milliseconds below seabed, to
- 1900 metres per second some 120 to 140 milliseconds below seabed.

It should be noted that a number of velocity functions were defined for each traverse. The mute function was generally defined to enhance the top part of the profile with the nearest geophones (channels 1 to 5/7), and the deeper reflectors with the furthest geophones (channels 8 to 24). An example is given in Figure 5-2.

5.3 Processing Data Interpretation

As mentioned previously in this report, some of the processing was completed as late as February 1995. As a result of accumulated delays the systematic interpretation of the Victoria offshore seismic data was only started in April 1995.

It should be appreciated that the seismic data processing and the interpretation was undertaken on the whole seismic survey regardless of tenement boundaries, and not on a tenement basis as required by the reporting regulations. The data interpretation is done in four steps:

- the seabed is digitised from the real time single channel profile;
- the processed profiles are interpreted on a hard copy;
- the interpretation is digitised;
- the digitised data is reduced, validated and modelled using mining software.

At 11 May 1995 the full interpretation on hard copy was under way but not completed; the digitisation of the seabed was completed. The geology as interpreted from the seismic data is detailed below.

5.3.1 Typical Seismic Profile

Primary reflections were observed which are inferred to represent: seabed; erosional unconformities and depositional surfaces within a sequence of unconsolidated sediments; and the erosional unconformity forming the surface of gently folded sedimentary bedrock (Figure 5-3).

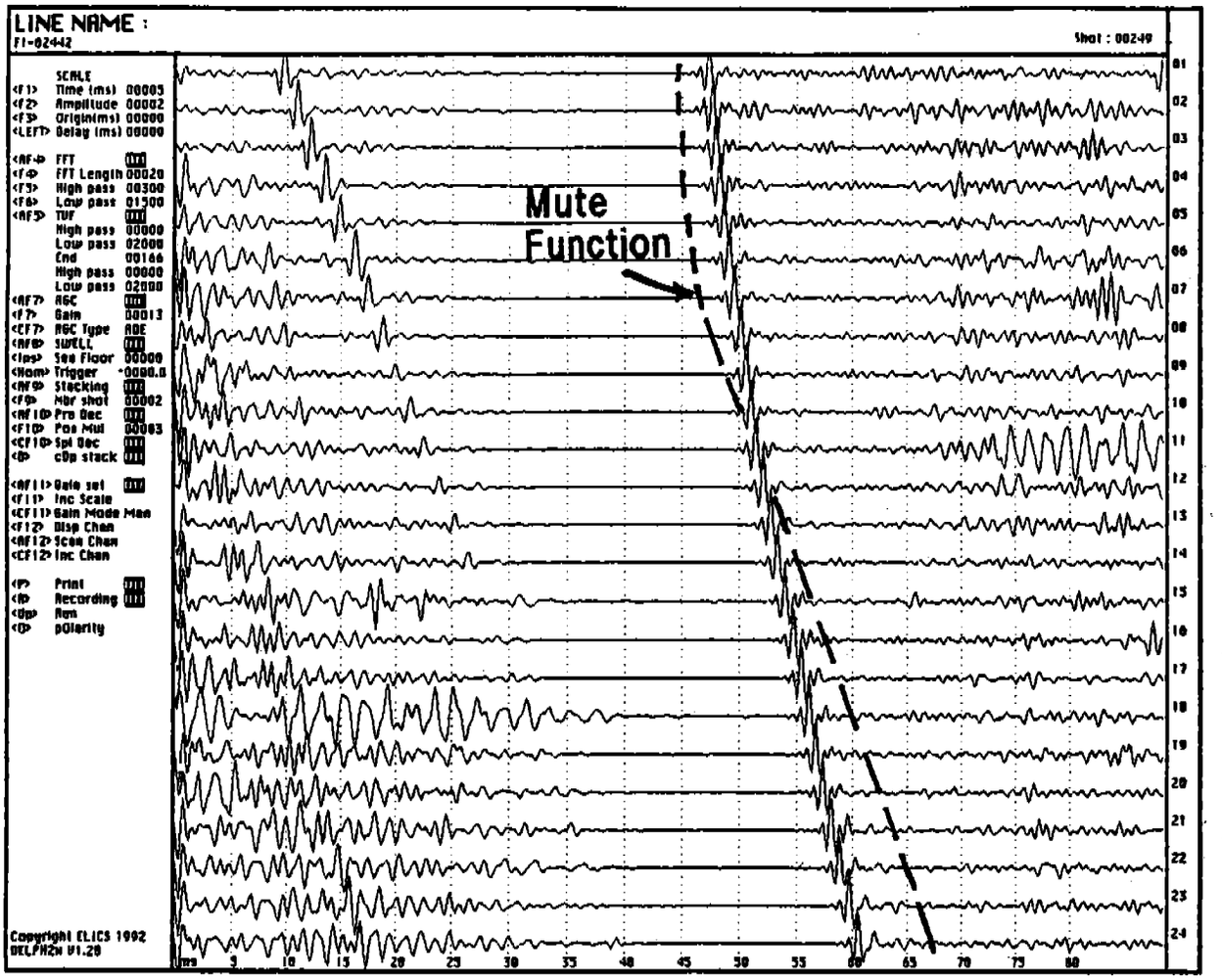


Figure 5-2 Illustration of the mute function used in processing the 24 channel digital seismic data

5.3.2 Seabed Morphology

In the far southwest of EL8166, and to a lesser extent in the south of EL8119, the seabed is characterised by shoals trending northwest - southeast which could not be crossed by the survey vessel. Similar asymmetric ridges up to 30 metres high occur in deeper water and show internal cross-bedding. These features are inferred to be mobile, or previously mobile, due to tidal currents, and to be composed of sand sufficiently coarse grained to exhibit cross-bedding, probably mixed with and/or covered by fine mud.

In the centre of EL8119, a deeper water zone over five kilometres wide occurs which is characterised by irregular channel and ridge morphology associated with the present Victoria River system. Narrow channels occur near the Fitzmaurice River mouth, which pass inshore of the Mermaid Bank shoal and coalesce with the Victoria River channel system at the northeast corner of EL8166. Northeast of these channels, broad areas of bedrock crop out on the seabed.

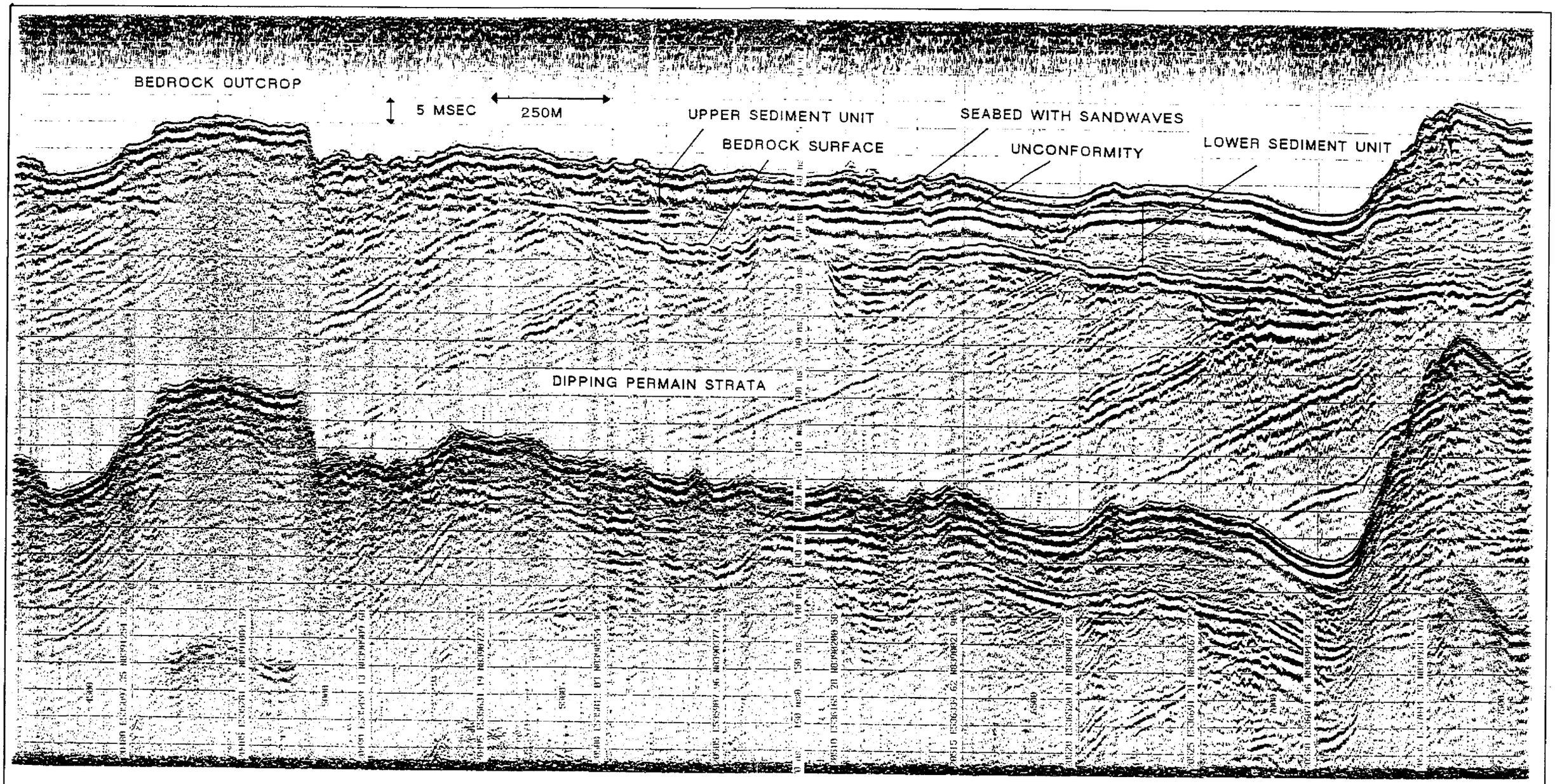


Figure 5-3 Type seismic profile showing interpreted unconformities and bedrock definition

5.3.3 Unconsolidated Sediment

Between the seabed and the interpreted bedrock reflector, a great number of primary reflections can be seen. Further primary reflections are assumed to occur in this zone but are masked by multiple reflections generated by reverberation of energy in the water column. The uppermost of these intrasediment reflections is widespread, slightly to strongly erosional in form, and is inferred to represent a regional unconformity separating the sediments into upper and lower units.

Upper Sediment Unit

The unconformity at the base of the upper sediment unit indicates a number of small palaeochannels, which are difficult to correlate between lines at the present spacing. Draped or cross-bedded channel fill sediments are often indicated, and broader areas of the upper unit exhibit a seismically transparent (uniform fine grained) character or low angle cross bedding, consistent with a muddy composition. Where present, the sand ridges described above (Section 5.3.2) form the youngest element of the upper unit, possibly by reworking of adjacent sediments, and often show a basal reflector laterally continuous with the surrounding seabed.

Lower Sediment Unit

Most of the unconsolidated sediments in the area fall within a sequence collectively called the lower unit. This can be a highly complex sequence with a number of local erosional surfaces, local or widespread zones of internal cross-bedding, and lenses of material with chaotic/highly diffractive/ coarse/non-bedded character. A deltaic or fluvial-deltaic environment of deposition is inferred for these sediments. By contrast, the complex sequence can occur adjacent to, below or within a sequence of sub-horizontal, monotonously interbedded sediments showing only occasional local scouring. A shallow marine environment of deposition is inferred for these sediments, with the whole of the lower unit possibly representing a marine transgressive sequence.

5.3.4 Bedrock

At Pearce Point, Fossil Head and elsewhere along the northeastern edge of the survey area, siltstones and sandstones of the Permian Port Keats Group outcrop. These are expected to form the upper part of the westward dipping Bonaparte Basin sediments beneath the survey area. Adjacent to the shoreline exposures, bedrock is inferred to outcrop on the seabed or occur at relatively shallow depth. Numerous parallel sub-bedrock reflections occur with apparent dips up to approximately 6°. Dip directions can be northeast, southwest or northwest, and fold axes can be traced in a northwesterly direction. Similar bedrock character is observed at the far southwest of EL8119 and the centre of EL8166, and it is inferred that bedrock throughout the area comprises the Port Keats group sediments.

Sub-bedrock character is obscured throughout much of the area by multiples and due to attenuation in thicker sediments. However, an erosional form is interpreted with varying degrees of confidence

which indicates a braided system of palaeochannels of the Victoria, Fitzmaurice and Keep Rivers crossing the area from southeast to northwest at depths up to approximately 75 metres below sea level.

6. CALCULATION OF MINIMUM SAMPLE SIZE

6.1 Introduction

Alluvial diamonds are generally of gem quality due to their depositional history whereby poor quality stones are degraded into very small particles. Alluvial diamond deposits are, therefore, characterised by high unit value.

If an alluvial deposit is mined in bulk, it is also characterised by low mining costs. The combination of high unit value and low mining costs means that an offshore alluvial diamond deposit can be economical at very low diamond concentration (or grade).

Using the geophysical data and the data collected from the two bulk sampling surveys completed by CGE in the Joseph Bonaparte Gulf, a conceptual geological model and a conceptual mining scenario can be used to calculate the sample size required to evaluate the Company's offshore tenements.

6.2 Mining Cost Estimation

The conceptual geological model assumes a deposit of diamondiferous material 10 metres thick beneath five metres of sterile overburden. It is also assumed that all materials are bulk mined and that 15% of the mined material is fed to the heavy media separation plant. The following assumptions are based on the data collected to date:

- capital investment is $200 Million with a 10 year amortisation;
- mining capacity 1500m^3 per hour at 70% efficiency;
- mining cost @ $2 per m^3;
- treatment cost @ $2 per m^3.

The total mining and treatment cost is then calculated at $5.63 per m^3.

6.3 Cut Off Grade Estimation

Assuming that the diamond value is $250 per carat (based on the valuation of diamonds recovered during the bulk sampling survey) and the average stone size of 0.25 carats, the provisional cut off grade is calculated to be 0.0225 carats per m^3.

The provisional cut off grade indicates, therefore, that one can expect 9 stones of 0.25 carats per 100 m^3 or 4.5 stones per 100 tonnes.

6.4 Sample Size Consideration

Assuming that in an alluvial diamond deposit, the diamond distribution is a straight Poisson distribution (not a Sichel's compounding Poisson distribution), the chances of finding one stone and two stones in a drill hole are shown in Table 6.1.

Table 6-1 The chance of finding one stone and two stones for a given drill hole diameter

Drill Hole Diameter (m)	% Chance of finding at least one stone	% Chance of finding at least two stones
0.75	45	12
1.00	63	26
1.50	90	69
2.00	98.5	92

As a cross check of the Poisson distribution interpretation, the theoretical relative error based on Gy's formula (Gy, PM, 1982: *Sampling of Particulate Material, Theory and Practice*, Elsevier, Amsterdam; pp 431) for sampling can be calculated:

$$S^2 = \left(\frac{1}{M_S} - \frac{1}{M_L}\right) \times C \times d^3$$

where: S^2 = Variance of grade
M_S = Sample weight in grams
M_L = Weight in grams of the deposit (universe) from which the sample is taken
C = Sampling constant
d = particle diameter in cm = 0.25 (for diamonds of approximately 0.25 to 0.3 carats)

the sampling constant:

$$C = c \times l \times f \times g$$

where: c = the mineralogical factor
l = the liberation factor

f = Shape factor or coefficient of cubicity = 0.5

g = Size range factor = 0.25

The mineralogical factor (c) can be calculated from:

$$c = \frac{1-a}{a}\left\{(1-a)\lambda_a + a\lambda_g\right\}$$

where: λ_a = density of diamond 3.5 gr/cm^3

λ_g = density of gangue in gr/cm^3

a = estimate of the critical compound in grams per gram of total materials

At the calculated minimum grade of interest we wish to detect (conceptual cut off grade) of 1.125 carats per 100 tonnes we can calculate that:

a = 2.25 x 10^{-9} grams diamond per gram of solids

Because (a) is very small, parts of the formula become negligible:

$$c = \frac{1}{a}\lambda_a$$

Furthermore, M_L is the weight of the deposit (universe) in grams and thus $\frac{1}{M_L}$ is negligible.

Gy's formula now reads:

$$S^2 = \frac{1}{M_s} \times \frac{1}{a} \times \lambda_a \times f \times g \times l \times d^3$$

In the geological model which assumes a thickness of 15 metres of material a drill hole with a diameter of two metres will contain 47m^3 or approximately 100 tonnes (10^8 grams).

From Gy's formula

S^2 = 0.03

S = 0.17

The relative standard deviation of the average grades in 100 tonnes samples 17%.

Within the 95% confidence limits the relative error is $\pm 2 \times S$ = 34% of the conceptual minimum grade of 1.13 carats per 100 tonnes and, therefore, the lower conceptual limit is 0.75 carats per 100 tonnes (or three stones) and the upper conceptual limit is 1.51 carats per 100 tonnes (or six stones).

6.5 Conclusion

Using assumptions based on the geological model and the limited data collected in the previous two bulk sampling programmes, it can be calculated that:

- mining costs are estimated at \$5.63 per m^3;
- the provisional cut off grade is 0.0225 carats per m^3 (1.12 carats per 100 tonnes);
- the relative error of funding the provisional cut off grade in a 100 tone sample is 34% within the 95% confidence limit;
- the drill hole diameter required to sample the geological model must be at least two metres.

7. IDENTIFICATION OF SAMPLING TECHNIQUES

A high resolution seismic reflection technique was used to locate favourable areas that might contain alluvial diamond accumulations. Because alluvial diamond deposits can be economical at very low grades, conventional drilling and sampling methods are not suitable.

The Company's exploration programme has always been to bulk sample its tenements in Western Australia and Northern Territory once a suitable bulk sampling tool was identified.

Following lengthy world wide research to identify a suitable bulk sampling tool, the Company located an alluvial mining ship, the Lady 'S', in South Africa. After several month of negotiations with the owner, a joint venture was finalised and bulk sampling was first undertaken with the Lady 'S' in the Ord Prospect (Figure 3-1) between September 1993 and November 1993. Although terrestrial gravels and gem quality diamonds were recovered, bulk sampling with the Lady 'S' was not entirely successful because it could not sample quantitatively, and no *in-situ* grade could be measured. Furthermore, the drilling method failed to penetrate the seabed to the required depth.

The ship was then moved to Singapore for modification. Contractual difficulties and lengthy negotiations were experienced with the ship's owner resulting in delays. Although modifications were

where the required drilling depth was moderate. For this reason bulk sampling was resumed in July 1994 in a target area in the Berkeley Prospect in Western Australia (Figure 3-1). Terrestrial gravel and gem quality diamonds were also recovered in this area but it was realised that quantitative sampling still could not be achieved with the Lady 'S', and that further modifications would be cost prohibitive. Furthermore, the ships propeller shaft was damaged during positioning and required repairs. The Lady 'S' was then dismissed without being able to sample the Northern Territory tenements.

On 19 April 1994, a delegation of Cambridge Gulf Exploration staff visited representatives of the Northern Territory Department of Mines and Energy to explain and illustrate the sampling method used by the Lady 'S' and to inform the Department of the sampling programme envisaged in the Northern Territory tenements later in 1994.

On 16 June 1994, the Company wrote a letter to the Department to advise that the Lady 'S' would move to the Northern Territory tenements in August 1994. Unfortunately, due to the circumstances explained above, the Lady 'S' was not able to sample in the Northern Territory Tenements.

Using the geotechnical and geological information gained from the two surveys completed by the Lady 'S' in Western Australia, the Company estimated that the economic diamond cut off grade could be very low, in the range of 0.02 carat per cubic metre (see Section 6). It also established that the most effective sampling tool would be by drilling in a cased hole to enable reasonably accurate grade determination within the 95% confidence limits and, because the economic cut off grade is so low, the drilling tool would have to recover large samples.

A world wide search for large diameter drilling tools was initiated and various drilling techniques were investigated. These include jetting, rotary and monocore drilling, clampshell excavation and dredging. Because the work was to take place offshore, the Company also investigated a number of drill ships, semi-submersible and jackup platforms, and drill barges.

At its Annual General Meeting of 21 December 1994, the Company announced that it had entered into a Head of Agreement with a Consortium ("Alluvial Exploration Drilling BV") which had the tools and expertise to undertake quantitative offshore large diameter drilling.

The Company's intentions are to first drill its most promising area, the Berkeley Prospect, and thereafter to drill all its prospects in Western Australia and the Northern Territory.

On 4 April 1995, a delegation of CGE staff visited the Northern Territory Department of Mines and Energy and explained in detail the drilling survey proposed. In May 1995, the Company submitted a formal drilling program entitled *Phase III Drilling Programme - Project Proposal and Environmental Summary, Joseph Bonaparte Gulf'*.

8. PROPOSED ACTIVITIES AND ESTIMATE OF EXPENDITURES FOR THE TWELVE MONTHS TO 11 MAY 1996

In the next twelve months, the proposed exploration activities will be as follows:

1. Completion of the interpretation and computer modelling of the exisiting seismic data.
2. Baseline environmental study including collecting seabed sediment samples and water quality samples which will be fully analysed (biological, chemical and physical analysis).
3. Mobilisation of a large diameter reverse ciruculation drilling system in the Victoria River Prospect.

8.1 Estimated Expenditures on EL8118

1.	Seismic data interpretation and modelling	$1,000
2.	Environmental base study including field work and analysis	$10,000
3.	Mobilisation of the new drilling system	$315,000
4.	Technical personnel salaries	$54,000
5.	Tenement administration including report compilation	$10,000
6.	Legal fees (provision for)	$10,000
7.	Overhead (15%)	$60,000
TOTAL		**$460,000**

8.2 Estimated Expenditures on EL8119

1.	Seismic data interpretation and modelling	$10,000
2.	Environmental base study including field work and analysis	$10,000
3.	Mobilisation of the new drilling system	$450,000
4.	Technical personnel salaries	$47,000
5.	Tenement administration including report compilation	$10,000
6.	Overhead (15%)	$79,000
TOTAL		**$606,000**

8.3 Estimated Expenditures on EL8166

1.	Seismic data interpretation and modelling	$5,000
2.	Environmental base study including field work and analysis	$5,000
3.	Mobilisation of the new drilling system	$135,000
4.	Technical personnel salaries	$15,000
5.	Tenement administration including report compilation	$10,000
6.	Overhead (15%)	$25,500
TOTAL		**$195,500**

APPENDIX 1

Northern Territory Geological Survey Geosystem Data Sheet

NORTHERN TERRITORY GEOLOGICAL SURVEY GEOSYSTEM DATA SHEET

REPORT NO: CR.....*CLASSIFICATION* Confidential.....

REPORT TITLE: Cambridge Gulf Exploration N.L. Combined Mineral Exploration Report for EL8118, EL8119 and EL8166 for the period 12 May 1994 to 11 May 1995.....

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DRILL CORE?: N/A.....

LICENCE NO(S): EL8118, EL8119 and EL8166 .....

.....

PROJECT YEAR(S): Third Year .....

LICENSEE(S): Cambridge Gulf Exploration NL, Level 4 Southshore Piazza .....

81-83 The Esplanade, South Perth WA 6151: ACN 059 458 374 .....

JOINT VENTURES: NIL.....

.....

OPERATOR(S): Cambridge Gulf Exploration NL .....

MAP REFERENCE:.....

1:100 000: Darwin SD52 .....

1:250 000: EL8118: Auvergne SD52-15; Port Keats SD52-11 .....

EL8119: Port Keats SD52-11.....

EL8166: Port Keats SD52-11.....

1:100 000: EL8118: Turtle Point 19/4; Keyling 19/5; Victoria River 25/2; .....

Millik Monmir 25/3; Auvergne 25/6 .....

EL8119: Turtle Point 19/4: EL8166: Turtle Point 19/4 .....

GENERAL TERMS: Diamonds; Alluvial placer; Shallow seismic reflection

NOTES: Alluvial diamond deposit can be economical at very low grade and, therefore, needs specialised equipment to sample. Calculations based on existing information show that the sample size must be at least 100 tonnes.

The Company has now located and is mobilising a large diameter offshore drilling unit.

ABSTRACT:

A high resolution seismic survey covering part of EL8118 and the whole of EL8119 and EL8166 was completed in March 1994. Twenty six and a half (26.5) line kilometres were surveyed on EL8118, 224.5 line kilometres on EL8119 and 36.5 line kilometres on EL8166. This data was processed using CDP stacking and a combination of high and low frequency filters.

PROSPECT NAME(S): Victoria River Prospect

TECTONIC UNIT: N/A

TECTONIC SUB-UNIT : N/A

STRATIGRAPHY: Alluvial gravels and sand overlying Precambrian basement

MAJOR TERMS:

METALLIFEROUS MINERALS

NONMETALLIFEROUS MINERALS

TARGET GROUPS:

TIN/TANTALUM/TUNGSTEN	*BASE METAL*	*INDUSTRIAL MINERALS*	*HEAVY MINERALS*
DIAMONDS	*RARE EARTH MINERALS*	***PLATINUM GROUP METALS***	***GOLD***
SILVER	*DIMENSION STOVES*	*EVAPORATES*	*URANIUM*
GEMSTONES			

ANALYSIS:

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MINERALISATION: Alluvial placer.....

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AMF MINOR TERMS:

DRILLING	***GEOPHYSICS***	*GEOCHEMISTRY*	***GENERAL***
	AERIAL SURVEYS	***SAMPLING***	
DIAMOND	*MAGNETIC*	*STREAM SEDIMENT*	*GEOLOGICAL*
MAPPING			
PERCUSSION	*RADIOACTIVITY*	*SOIL*	*PHOTOGEOLOGY*
AUGER	***GROUND***	*ROCK CHIP*	*METHODS*
ROTARY	*EM SURVEY*	*TRENCHING*	*REGIONAL*
GEOLOGY			
VACUUM	*IP SURVEY*	*BULK*	*STRATIGRAPHY*
	RESISTIVITY	*GEOCHEMICAL ANOMALY*	*RECONNAISSANCE*
	MAGNETIC SURVEY		*STRUCTURE*
	GRAVITY SURVEY		*METAMORPHISM*
	RADIOACTIVITY SURVEY		*PETROLOGY*
	SEISMIC REFLECTION		*LITHOLOGY*

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TEXT LOCATION:.....

MICROFICHED?:.....

INDEXED BY DATE:.....

CHECKED BY DATE:.....

ENTERED INTO DATABASE:.....

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ENTERED BY:.....